

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Bedekar, Anand S., et al.

EXAMINER: Taha, Shaq

SERIAL NO.: 10/840,053

GROUP: 2146

FILED: May 6, 2004

CASE NO.: CE10624R

TITLED: Method and Apparatus for Controlling Persistent
Connections Between a Proxy and a Server

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AFTER FINAL RESPONSE

Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Responsive to the Final Office Action mailed April 30, 2008 and Examiner's comments with regard thereto, please enter the following remarks in the above-entitled application, without prejudice or disclaimer.

REMARKS

Reconsideration of the above-referenced application is respectively requested in view of the above amendments and these remarks. Claims 1-13 and 16-20 are currently pending.

Claims 1-2, 4-5, 7-9, 11-13 and 16-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 6,314,108 to Ramasubramani et al. Applicants have reviewed the disclosed invention, the claims, Ramasubramani and the statements in the Final Office Action and respectfully traverse the rejection. Applicants previously described the invention, claims and Ramasubramani, and those statements and arguments are repeated and incorporated here. The fundamental difference between the claims and the cited reference is that the claims focus on the plurality of persistent connections between the proxy and the server and on specific aspects that control the persistent connections.

According to the claimed invention, the proxy, i.e. the apparatus of claim 1 and the proxy of claims 9 and 13, maintains a plurality of persistent connections to a server. The term “persistent connection” is a term of art that is known to one of ordinary skill in the art and is also fully described in the Specification. A “persistent connection” is a connection that is maintained as active so that communications or requests can be forwarded over these connections without having to establish new connections and without having to go through a set-up process between devices, e.g. the claimed proxy and server. Applicants respectfully submit that Ramasubramani does not reference whether the connection between the proxy and the servers are persistent connections or not because that is not Ramasubramani’s focus. The focus of the claims is on specific method used by the proxy for the control of the transmission of requests to a given server over a plurality of persistent connections between the proxy and the server and in particular the delivery of the received objects to the requested user in an appropriate order.

When there is a request for an object from a server, it must be decided which of the plurality of persistent connections between the proxy and the server will be used to transmit the request to the server and receive the object from the server. One aspect of

this decision involves a determination of the load on each of the plurality of persistent connections. A proxy may decide that a particular request should be transmit to the server over the persistent connection that has the lightest load. For objects received by the proxy from a server over the persistent connections, the appropriate order of delivery of the objects from the proxy must be ensured. This includes dealing with the case where there are priorities associated with the requests and ensuring that the objects requested by a given user from a given server are delivered to that user in the order of priority of the requests irrespective of which persistent connections were used to transmit the requests and receive the objects. In addition, rules are needed to ensure that requested objects that were found in a cache at the proxy are also delivered to the user along with objects that are received from the server over the persistent connections so that the objects are delivered in the order of priority of the requests.

The Final Office Action points to Ramasubramani's connections associated with reference numbers 208, 210 and 212 as being the claimed persistent connections. Applicants respectfully submit that these are not the persistent connections claimed, which require that the persistent connection be between the proxy and the server. As seen in FIG. 2, these connections refer to the connections between the user and the proxy instead of the connections between the proxy and the servers. Regardless of whether these connections are considered between the proxy and the user or the server, there is nothing within Ramasubramani to suggest that these are persistent connections.

Applicants also respectfully submit that Ramasubramani does not teach that the controller allocates the requests, which are received by the proxy from users, to the plurality of persistent connections for transmission the server. In this respect, users 202-206 seeking information from application server 216 through persistent connection 208-212 is cited against claim 1. As stated the connections 208-212 are not between the proxy and the server and are not persistent. Nor are there multiple connections to the server 216. Thus, Ramasubramani is silent on whether the controller makes a decision that a particular request to that server be allocated for transmission over a particular one of the multiple persistent connections to the server.

The Final Office Action states that users 202-206 retrieve information from the internet through controller 214 which orders delivery of information to the users. While

it is true that the controller delivers information to the users, Ramasubramani is silent on the need to decide the order in which objects are delivered to a particular user because the reference does not discuss persistent connections. The need to address order as required by claim 1 is linked to the plurality of persistent connections between the proxy and the server. For example, when a user request an object from a server that is connected to a proxy over a plurality of persistent connections, it is possible for a second part of the object to be received over one of the plurality of persistent connections before the first part of the object is received over another of the plurality of persistent connections. To address this situation, the controller in claim 1 makes decision on the order of the delivery of objects received from the server in response to requests. In addition, if a first request has a higher priority than a second request, the controller can control the order of delivery of the responses to the requests respecting the priorities of the requests regardless of the order in which the proxy receives responses from the server. Thus, the aspect of the order in claim 1 is closely related to the persistent connections.

Independent claim 9 also includes the plurality of persistent connections between the proxy and the server. As discussed above, Applicants respectfully submit that Ramasubramani does not disclose these claimed persistent connections. Claim 9 also includes a load tracker that provides information on the load on the persistent connections. FIG. 8B and the airlink framework 852 are referenced in the Final Office Action against the load tracker. The airlink framework can provide a processing model for the airlinks of a push and pull agent. But the airlink framework does not disclose any information on providing information to the controller on the load of persistent connections between the proxy and the server.

Independent claim 13 also includes the plurality of persistent connections between the proxy and the server. As discussed above, Applicants respectfully submit that Ramasubramani does not disclose these claimed persistent connections. Claim 13 also includes adjusting a number of persistent connections that are maintained as active to the server. Irrespective of not disclosing the claimed persistent connections, Applicants respectfully submit that Ramasubramani does not disclose the required adjusting step.

In view of the foregoing, Applicants respectfully submit that Ramasubramani does not disclose the claimed apparatus, system and method that focuses on the persistent connections between the proxy and the one or more servers on which requested objects are. Moreover, Ramasubramani does not disclose the ordering feature of claim 1, the load feature of claim 9 or the adjusting step of claim 13. Applicants therefore respectfully submit that independent claims 1, 8 and 13 are not anticipated by Ramasubramani. As claims 2, 4-5 and 7 depend on claim 1, claims 9 and 11-12 depend on claim 8 and claims 16-20 depend on claim 13, Applicants submit that these claims are not anticipated by the cited reference for the same reasons. Applicants request that the rejection under Section 102(b) be withdrawn.

Claims 3, 6 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ramasubramani in view of United States Patent No. 7,167,926 to Boucher et al. Claims 3 and 6 depend on claim 1 and claim 10 depends on claim 8. Applicants respectfully submit the dependent claims are patentable over the cited combination as neither Ramasubramani nor Boucher are directed to the persistent connections between the proxy and the servers on which objects are for the reasons given above with respect to the rejection under Section 102(b). Applicants request that the rejection under Section 103(a) be withdrawn.

As the Applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the Applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the Applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

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Please charge any fees associated herewith, including extension of time fees, to
50-2117.

Respectfully submitted,
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SEND CORRESPONDENCE TO:

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